



SEPTEMBER 2019

E-BULLETIN

MAHARASHTRA POLLUTION CONTROL BOARD

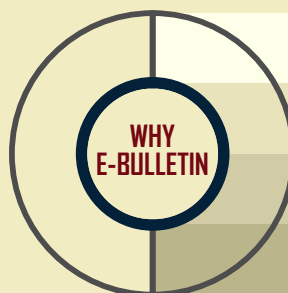
I am delighted to present to all stakeholders this new initiative of our knowledge sharing digital platform through this e-bulletin. Even as Maharashtra works to retain its position as the industrial powerhouse of our country it is necessary that our industrial activity is both sustainable and environment friendly. Both industry and MPCB need to work together to ensure that we are not only compliant of current regulation, but also seek out and draw up roadmaps for the use of best available technology, both for process and for pollution abatement. This e-bulletin will try to bring the latest in terms of regulation, judicial pronouncements and in terms of available technology. I seek the cooperation of all industry veterans to use this as a platform to share their knowledge and experience. I am confident that this initiative will be beneficial to both MPCB and industry.



Shri S. K. Shrivastava (IAS), Chairman, MPCB

WHAT'S INSIDE

- * Bimonthly Environmental Bulletin
- * MPCB Structure & Statistics
- * Environmental Current Affairs
- * Technology Updates
- * Legal Updates [Policy /Act/ Rule etc]
- * Research Articles
- * MPCB events [Past & Upcoming]
- * New initiatives in environment



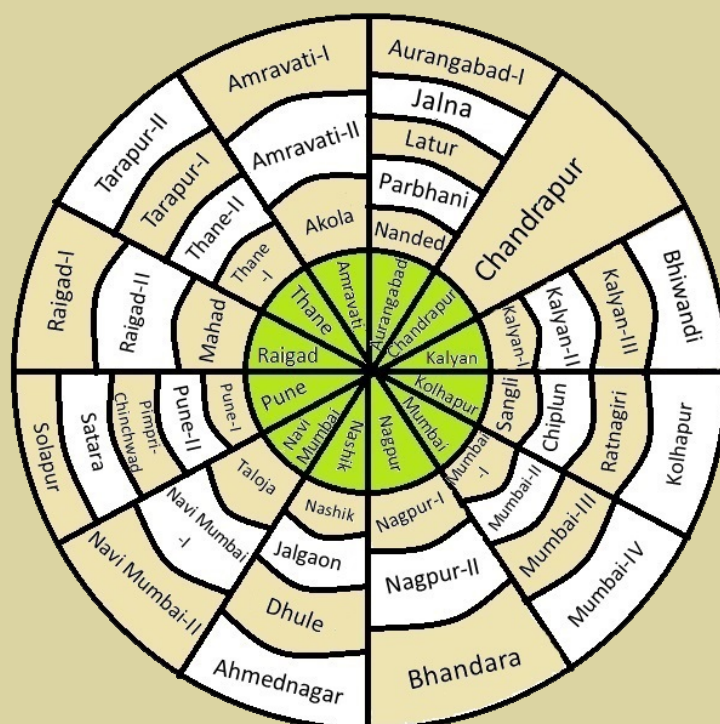
- * Single point updates at fingertips
- * Concise information
- * Platform to appraise with latest news in technology / legal aspects
- * Quick & easy access to latest information
- * Mass reach out using digital platform
- * Knowledge sharing & awareness

Shri E. Ravendiran, (IAS)
Member Secretary, MPCB

It gives me immense pleasure in presenting yet another endeavor of MPCB i.e. "E-Bulletin" publishing latest happenings of MPCB that is

constantly thriving for sharing information through several means. Our priority is to sensitize each & every concerned associated with activities of MPCB directly or indirectly. Nothing could be better than a digitized information system through our new Digital E- Bulletin that shall reflect individual activities, events, achievements, actions taken & proposed, deeds & newer endeavors. It shall also be a platform that will appraise everyone with latest news in environmental field not only of technology but also the legal aspects.

ORGANIZATION STRUCTURE



"We won't have a Society if we Destroy the Environment"
_Margaret Mead

1.AIR & E-WASTE

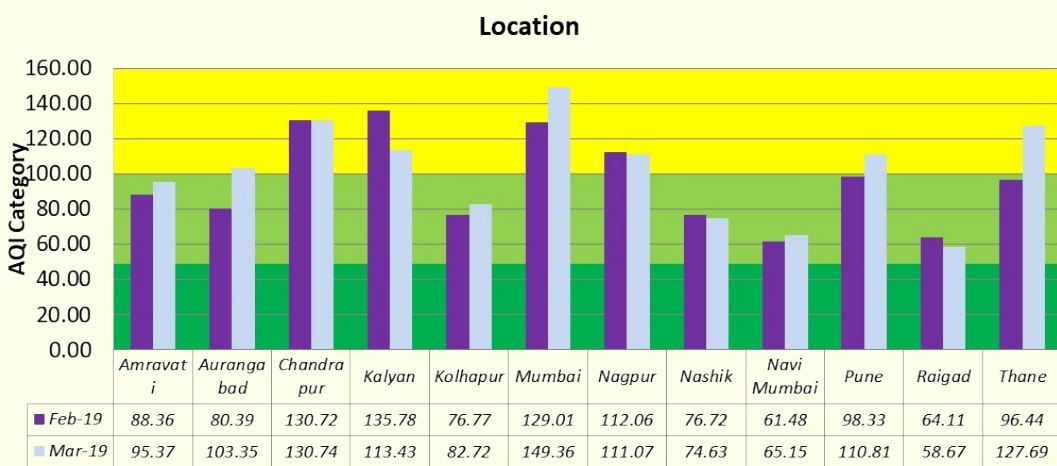
2.SOLID WASTE / HAZARDOUS WASTE

AIR QUALITY INDEX FOR FEBRUARY 2019 TO MARCH 2019 IN STATE

LEGEND FOR READING AQI.

AQI	0-50	51-100	101 -200	201 -300	301 -400	401 -500
Remarks	Good	Satisfactory	Moderate	Poor	Very Poor	Severe

Trend of mean AQI during the months of February and March 2019 have been studied which shows that the air quality recorded in all 12 regions was in the 'moderate' and 'satisfactory' AQI categories. During the months of February and March 2019, the mean AQI recorded at Amaravati, Kolhapur, Nashik, Navi Mumbai and Raigad was in the 'satisfactory' category. At Chandrapur, Kalyan, Mumbai and Nagpur, the mean AQI during both months of monitoring was in the 'moderate' category of AQI.



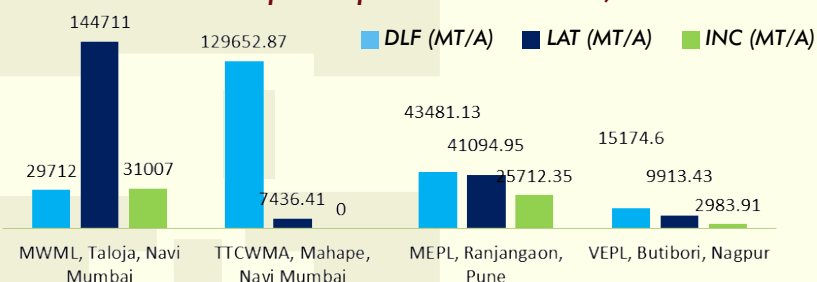
E-WASTE

PRESENT STATUS OF E-WASTE GENERATION AND RECYCLING IN MAHARASHTRA STATE

Types of Authorizations/Registrations granted by the Board	Authorizations/Registrations granted by the Board (number)	Capacity of E -Waste generation/collection/dismantling/recycling (MT/A)
Dismantlers	66	71,479
Recyclers	10	
Total	76	

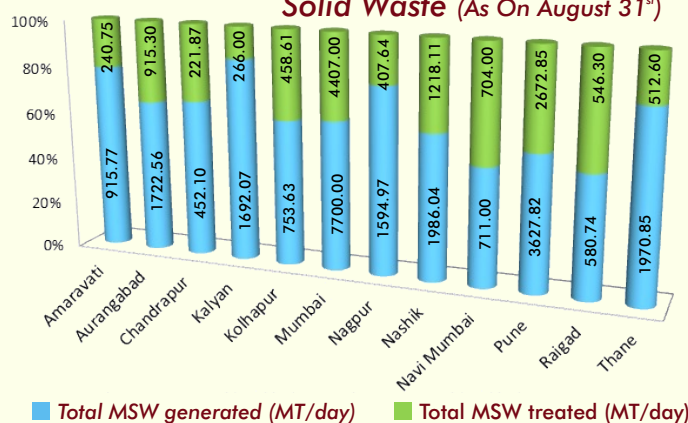
Summary of Hazardous Waste Received at disposal sites (As on August 31st)

Total number of participant industries: 6,459



* DLF- Direct Land Filling, LAT- Landfilling After Treatment, INC- Incineration
4,80,879.648 Tonnes of Hazardous Waste per year...!! from 6,459 industries in a state..

Status Of Management Of Municipal Solid Waste (As On August 31st)



"Water and air, the two essential fluids on which all life depends, have become global garbage cans."
Jacques-Yves Cousteau

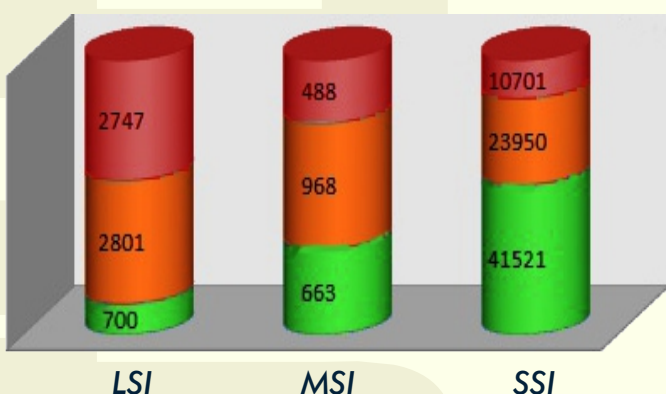
WATER FOOTPRINT

Water footprint is an indicator of commandeering of freshwater resources, measured in terms of amount of water consumed and polluted. This term was first introduced by Hoekstra (2002). The volume of freshwater consumed, polluted or wasted in the manufacturing of goods and services is called Water Footprint; which is a mixed magnitude/ frequency of direct & indirect usage of water. The usage of water can be for an individual as well as for any well- defined group of consumers; belonging to domestic, agricultural and industrial sector. There are 3 types of water footprint as;



Maharashtra State Industry Statistics (As on 31st August 2019)

Red Orange Green



White Category - 882

During 2018-19, 3 groundwater WQMS recorded WQI in the category 'Water Unsuitable for Drinking'. This number has neither reduced nor increased from that observed during the year 2017-18. These WQMS (2007, 2833 and 2834) recorded WQI under this category due to high levels of TDS, hardness, calcium and chlorides.

WQI WATER POLLUTION

GROUNDWATER

Groundwater Classification Based on Water Quality Index

WQI Value	Water Quality	Colour code used in this report
<50	Excellent	
50-100	Good water	
100-200	Poor Water	
200-300	Very Poor water	
>300	Water Unsuitable for drinking	

Table 5.31. WQI for Ground Water in Various Regions

Apr -18	79	80	10						114	104
Oct -18		71	140						145	122
Station Code	2001	2002	2003	1993	2200	2201	2824	2825	1994	2828
Region	Amaravati			Aurangabad				Chandrapur		

Apr -18	25	208	104	106	109		181	29	138	194
Oct -18	81	207					162	56	209	194
Station Code	1992	2819	2821	2822	2823	1984	1985	1986	1987	1988
Region	Pune					Thane				

Apr -18	122	122		109	124			117	
Oct -18	106		101	129	97		113	106	
Station Code	1995	1996	1997	1998	1999	2000	2203	2826	2827
Region	Nagpur								

Apr -18	68								
Oct -18									
Station Code	1990	1991	2204	2816	2817	2818			
Region	Nashik								

262	207	64	484	231	54	282	91	180	46	323	351	40	200
186	96	44	75	120	28	70	110	171	28	36	50	46	40
2004	2005	2006	2007	2008	2202	2829	2830	2831	2832	2833	2834	2835	1989
Kolhapur													

"If there's one thing I would like to see, it'd be for us to be able to price the cost of carbon emissions"

Barack Obama

Blue water	Green water	Grey water
Volume of water sourced from Surface water or ground water/base flow. Determined by modeling evapotranspiration for irrigated water or a consumptive water coefficient is applied for water withdrawals.	Volume of water that is determined by the moisture in the soil - water evapotranspired through plants and soils. Evaluated for agricultural processes.	Volume of water necessary to assimilate waste flows. Primarily evaluated for nitrogen and phosphorous content in return Flows. Determined by dividing pollutant load by the difference in the maximum acceptable concentration and the natural concentration of the receiving water body.

CALCULATION OF GREEN WATER FOOTPRINT

$$WF_{\text{proc, green}} = W_g + W_l$$

G - Green Water Evaporation

I - Green Water Incorporation

CALCULATION OF GREY WATER FOOTPRINT

$$WF_{\text{gray}} = \frac{L}{C_{\text{max}} - C_{\text{nat}}} = \frac{\text{Effl} * (C_{\text{effl}} - C_{\text{nat}})}{C_{\text{max}} - C_{\text{nat}}}$$

CALCULATION OF BLUE WATER FOOTPRINT

The blue water is the sum of the Domestic, Biodegradable, Non-Biodegradable, Cooling purpose & other Consumption of overall 16000 Green Category Industries.

$$WF_{\text{Blue}} = W_d + W_p + W_u$$

d- Domestic consumption

p - Industrial process consumption

u - Utility consumption

CALCULATION TOTAL WATER FOOTPRINT

$$WF_{\text{total}} = WF_{\text{green}} + WF_{\text{blue}} + WF_{\text{gray}}$$

WATER CONSERVATION FACTS



Urbanization

By 2050, more than half of India, or an estimated 800 million people. With semi-urban population, this could mean nearly a billion people relying on urban water utilities.



Reduction

The per capita availability of water has drastically reduced from 6,008 m³ in 1947 to around 1700 m³ in 2001, and will go down to 1000 m³, over the next three decades.



Projection

By 2050, the per capita availability of water at national level will drop by 40-50% due to rapid population growth & commercial use.



Demand Projection

Industrial and domestic water demand will double in absolute quantities by 2025 as compared to 2005.



Distribution Losses

Many existing water utilities are either financially bankrupt or have huge transmission & distribution losses, as high as 50%. For eg., 40% of the water is wasted in the country's capital due to transmission and distribution losses.



Agricultural Issues

Agriculture accounts for 80% of India's water consumption. It is estimated that 25 million groundwater pump sets in the country. About 5-7% is used for domestic water and about 10-13% is used by industries.

"The environment will continue to deteriorate until pollution practices are abandoned"

B. F. Skinner

A Patented Technology for ZLD, Providing non-conventional, limited or non- chemical, Sustainable Unique ZLD Solutions For Industries

With ZLD norms becoming mandatory now, industry has to ensure that there is no discharge outside the premises. Water recovery through reverse osmosis (RO) is economically not viable due to very large quantity of RO reject which may need to treat further in Multiple Effect Evaporators having very high CAPEX & OPEX. Considering the same, one such technology is developed indigenously by which effluent water like RO Reject will be re-utilized directly as make up water for Cooling Towers replacing fresh water for achieving ZLD on sustainable basis without affecting plant performance. The working principle is very simple and proven. It incorporates use of Galvanic Principle, Chemical Characteristics of water and Fluid Dynamics. It exploits solubility characteristics of Calcium and Magnesium salts in water with change in its pH value. It locally increases pH value of water before it reaches high temperature zone and then precipitates out hardness causing salts as water flows through this equipment. This technology is already implemented in NTPC reducing huge fresh water consumption. For detail case-study, click below link @ <https://www.ntpc.co.in/>, NTPC DADRI, Chronological study of Scaleban Project at Stage 2- 490 MW Units.

HIGHLIGHTS OF TECHNOLOGY

- ZLD without RO Plant & Multi Effect Evaporator (MEE)
- Optimum utilization of ETP treated effluent in cooling tower as makeup
- Substantial savings in terms of CAPEX, OPEX & Installation time
- Faster ROI compared to RO & Evaporator
- Very less CAPEX and negligible OPEX as compared to conventional technologies
- Zero Maintenance & No extra space required for installation, being an online equipment

LEGAL CENTRE

CIRCULARS

Office Memorandum issued by MoEFCC dated 8th August 2019: Development Projects seeking Environmental Clearance has to obtain a Clearance from Standing Committee of The National Board For Wild Life if located within 10km radius of National Park/Wild Life Sanctuary

NOTIFICATIONS

Published by MoEFCC through Notification no. SO-3023 [E] dated 22nd August 2019 to certify instrument s and equipment for monitoring air quality from CSIR [Council of Scientific & Industrial Research] - NPL [National Physical Laboratory]

NGT ORDERS

3-MONTH DEADLINE TO CLOSE POLLUTING INDUSTRIES

The National Green Tribunal's principal bench in Delhi on July 10 ordered the Central Pollution Control Board (CPCB), along with the State Pollution Control Boards (SPCBs) to close 69 Polluted Industrial Areas (PIAs) and also has asked to assess and recover Cost of damage to public health and environment from Polluters under Polluter Pay Principal. "No further industrial activities or expansion be allowed for 'Red' and 'Orange' category units till the said areas are brought within the prescribed parameters or till carrying capacity of area is assessed and new units or expansion is found viable having regard to the carrying capacity of the area and environmental norms". NGT has directed the CPCB with the assistance of experts to compile information with regard to polluted industrial areas based on water and air pollution norms and notify such information on public domain within three months.



"The key to artificial intelligence has always been the representation."
_Jeff Hawkins

EVENTS CENTRE

UPCOMING

DigiGreen CONCLAVE

Digital Connection to Environment

(EoDB, TECH CONFERENCE)

"DigiGreen Conclave 2019" On the eve of entering into Golden Jubilee Year, MPCB is hosting a workshop on Ease of doing business at Taj President, Cuffe Parade, Mumbai,

CONFERENCE ON INFORMATION TECHNOLOGY (IT)/ARTIFICIAL INTELLIGENCE (AI) LINKAGES WITH ENVIRONMENT GOVERNANCE (EG)

Maharashtra Pollution Control Board (MPCB), conducted the conference to sensitize, assess and explore the potential of Artificial Intelligence & Information Technology in the field of regulatory compliance and governance as a whole on 31st May 2019 at Aamby Valley City, Lonavala. The conference was conducted to create the awareness amongst the stakeholders about various AI & IT applications into main stream of Environmental Governance & compliance monitoring through engaging in first of its kind sensitization program. The conference aimed towards briefing various related topics for its importance in Environmental Governance such as Artificial Intelligence, Environmental Forensic, data analyzing, the integration of ROBOTICS with environmental systems, IoT & how Virtual Reality helps recreate the events along with other benefits which turned out to be very exciting & fascinating part of the conference.



MPCB has recently launched their first of its kind mobile application "**MPCB E-Catalyst**" which will act as a platform for public information system which has digital database & a centralised system wherein various information regarding all environmental concerns are disseminated widely and effectively using digital mediums. In times of digital literacy, e-governance and much aware conscience, it is an essential part of one and all to be updated with the latest affairs of environmental world. The application "MPCB E-Catalyst" can play a significant role in spreading environmental awareness among the nation on its fingertips.

Download the App at below link experience it & be a part of The Change...!!

<http://mpcb.gov.in/>

<https://play.google.com/store/apps/details?id=in.gov.mpcb.mpcbapp>

"Water and air, the two essential fluids on which all life depends, have become global garbage cans."
_Jacques Yves Cousteau

1.Tender for OLD vehicle Auction

MPCB invites Closed tenders for selling of board's outlined vehicles in as it is condition.

Know more at link below:

http://mpcb.gov.in/notices/pdf/Old_Vehicle_Auction_05082019.pdf

2.Tender for Purchase Of Laboratory Chemicals Under Annual Rate Contract (ARC)

MPCB invites e-Tender from the manufactures and authorized Agents (for imported products) for Supply of Laboratory equipment for Board Laboratories at located at various places in Maharashtra. The RFP / Bid Document can be downloaded from following sub portal on GoM e-Tendering website from 29/08/2019

<https://maharashtra.etenders.in>

MPCB STANDS 1ST ACROSS THE COUNTRY IN PERFORMANCE AUDIT

In the first ever rankings based on performance audit conducted by the Central Pollution Control Board (CPCB), The Maharashtra Pollution Control Board (MPCB) bagged the first rank among all the states in the country. MPCB scored 82.93 and stood first among all the state pollution control board & pollution control committees in India. Hon'ble National Green Tribunal (NGT) on January 2019, directed the CPCB to conduct audits in all State Pollution Control Boards and Pollution Control Committees in the country, and submit a report with the NGT. The two-day audit was conducted by an expert panel in May this year for the following parameters: Environmental Quality Monitoring, Enforcement & Regulatory Functions, Data Management & Public Out-reach, Advisory for Decision making & Research, and Development and Training.

MPCB UNLOCKS ITS NEW WEB PORTAL, CONTRIBUTES FOR "EASE OF DOING BUSINESS"

MPCB has initiated several reforms to ease the process of consent approvals for industries in Maharashtra. Recently, MPCB's Member Secretary received Civil Services award for initiating best practices under 'Ease of Doing Business' Project, which is the launch of its new web portal developed to streamline the process of consent application for commencing industries in Maharashtra. The initiation of the web portal also marks as a contribution to the 'Make in Maharashtra' initiative.



ACHIEVEMENTS CENTRE

ONLINE MANIFEST SYSTEM FOR HAZARDOUS WASTE

As State of Maharashtra is striving to achieve Ease of Doing Business and bring transparency in the Government systems. MPC Board has taken a great initiative to achieve the said goals. As per the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 notified by MoEFCC the sender of the hazardous waste is supposed to follow the manifest system (i.e. form 10) which is a form (paper) based work where the seven different colour copies are generated by the sender of Hazardous waste and are handed over to different parties involved in the complete process of generation, transportation and disposal of the said waste.

MPC Board has developed an online portal for the manifest system where the Hazardous Waste generation, transportation and disposal can be tracked easily and transparency can be maintained. This process will reduce human interventions, avoid humanly errors in reporting of the quantity of HW generated and disposed. This will facilitate all the hazardous waste generating and handling industries as well as the disposal facilities.

"Prepared by Wotastic Solutions Pvt. Ltd."

Climate change is happening, humans are causing it, and I think this is perhaps the most serious environmental issue facing us.
_Bill Nye

GALLERY



Shri. E. Ravendiran, (IAS) Member Secretary, , MPCB & Shri. S.k. Shrivastava (IAS), Chairman, MPCB lighting the lamp during inauguration of the Conference on Information Technology (IT)/ Artificial Intelligence (AI) linkages with Environmental Governance (EG) held at Aamby Valley City, Lonavala on 31st May 2019.



Shri P. K. Mirashe, Assistant Secretary, Technical addressing industry representatives about MPCB's EoDB initiatives.



(From Right to left)

Shri. V. M. Motghare, Joint Director, Air, Shri. Y. B. Sontakke, Joint Director, Water, Shri. E. Ravendiran, (IAS) Member Secretary, MPCB, Shri. S.k. Shrivastava (IAS), Chairman, MPCB, Dr. Rakesh Kumar, Director, NEERI, Shri. P. K. Mirashe, Assistant Secretary, Technical, Shri N. N. Gurav, Regional Officer, HQ, at the AI/ IT Conference, Lonavala.



Distribution of cloth bags to School students of Municipal Corporation of Greater Mumbai, India Hon'ble Shri Ramdasji Kadam, Minister for Environment & Forest GoM.



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FORTHCOMING

MPCB proudly launches Compliance Verification Portal for industries for submission of daily logbooks regarding Water Pollution Control Systems, Air Pollution Control Systems & Hazardous Waste pollution control systems.

